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Brief

December 2002

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Venezuela

Venezuela is important to world energy markets because it holds proven oil reserves of 77.7 billion barrels, plus billions of barrels of extra-heavy oil and bitumen. Venezuela consistently ranks as one the top suppliers of U.S. oil imports and is among the top ten crude oil producers in the world.

Note: information contained in this report is the best available as of December 2002 and can change.



GENERAL BACKGROUND

After two years of modest economic growth in 2000 and 2001, the Venezuelan economy entered into recession in 2002. The country's economic downturn has been propelled by both a loss of business confidence and the devaluation of the Bolivar, which has lost almost half of its value since being allowed to float freely in February 2002. With both the oil and non-oil sectors of Venezuela's economy

contracting in 2002, the country's real gross domestic product (GDP) is expected to fall by 6.7%, to \$96 billion, for the year.

Heavy government spending has precipitated a growing fiscal deficit that the country is struggling to ameliorate. Venezuela's 2002 federal budget, adopted in early 2002, called for a 22% nominal reduction in spending over last year's budget, based on an average price for Venezuelan oil of \$16 per barrel (implying an OPEC Basket Price of around \$18.50 per barrel). The Venezuelan economy is extremely oil-dependent. Oil accounts for more than three-quarters of total Venezuelan export revenues, about half of total government revenues, and about one-third of GDP. Prior to the country's year of crisis, increases in oil prices had been helping Venezuela and could allow some relaxation in tight budgetary restrictions. However, this has not been a good year for Venezuela's Macroeconomic Stabilization Fund (FIEM). The FIEM fell to \$3.3 billion in early October, down \$6.2 billion from the start of 2002. Meanwhile, Venezuela's international reserves also fell sharply during 2002. As of early October, reserves had fallen to \$11.5 billion, a decline of

more than \$12 billion for the year.

President Chavez has announced that Caracas will access resources from the FIEM (established with the goal of providing a cushion during any future hard economic times) as well as \$1 billion in foreign exchange profits to close the fiscal gap, but many observers suspect that Venezuela had also ramped up its oil production prior to the political unrest beginning in December. While the government denies breaking its OPEC quotas, press reports indicate that Venezuela could have been exceeding its OPEC quota by approximately 400,000 barrels per day (bbl/d). Venezuelan crude oil is more heavy and sour than U.S. benchmark West Texas Intermediate, (WTI) and generally trades about \$4 below WTI.

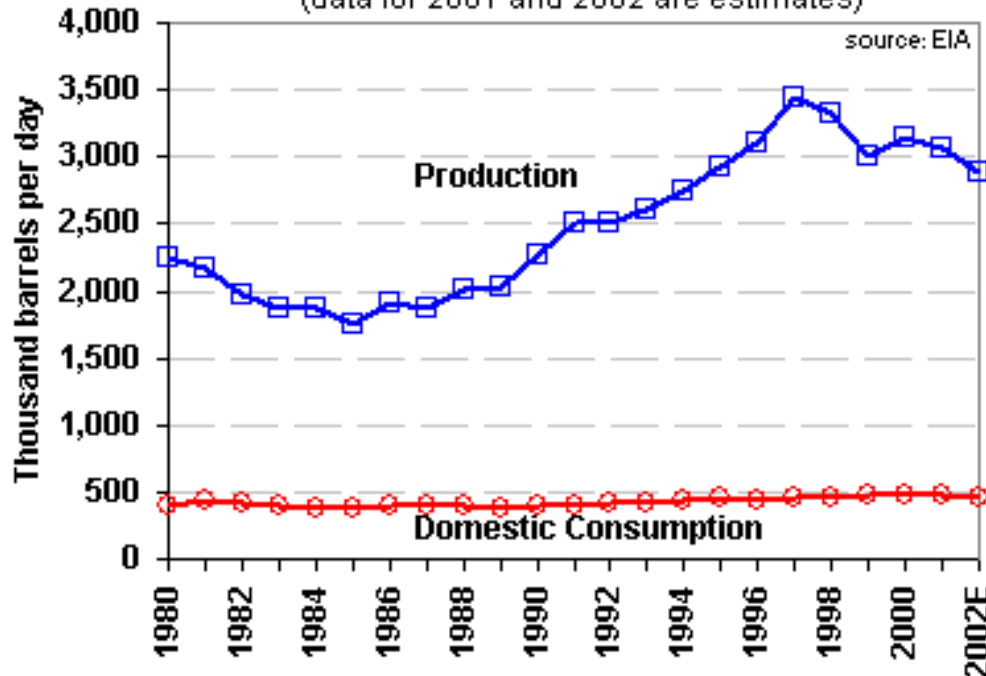
On December 2, 2002, opponents of President Chavez organized a nationwide strike to call for an early referendum on the President's rule. As of mid December, the strikers have nearly shut down the country's oil industry, drastically reducing the production of Venezuelan oil and its delivery to internal and external markets. President Chavez has declared the strikers' demands unconstitutional and has enlisted the help of the military to maintain production. President Chavez was elected in 1998 and recently survived an attempted coup in April 2002.

OIL

Venezuela is home to the Western Hemisphere's largest conventional proven oil reserves at 77.7 billion barrels, as of January 2002. Substantial extra-heavy oil and bitumen deposits are not included in this total. During the first nine months of 2002, Venezuela produced an estimated 2.9 million bbl/d, down almost 170,000 bbl/d from 2001 annual production figures. Of this 2.9 million bbl/d, about 466,000 bbl/d were consumed domestically, while the remaining 2.4 million bbl/d were exported. About 1.4 million bbl/d (58% of total exports) were shipped directly to the United States during the first nine months of 2002 (note: this does not count crude oil sent to the Caribbean, refined there, and then re-exported to the United States).

Venezuelan Oil Production and Consumption, 1980-2002

(data for 2001 and 2002 are estimates)



Venezuela has ranked consistently in the last several years as one of the four top sources of U.S. oil imports (along with Canada, Mexico, and Saudi Arabia). Venezuelan exports to the United States peaked in 1997 at about 1.8 million bbl/d. While total U.S. petroleum imports have risen by about 1.5 million bbl/d since 1997, imports

from Venezuela have decreased by about 300,000 bbl/d. In 1997, Venezuelan oil accounted for more than 17% of total U.S. oil imports, compared to just 12% during the first nine months of 2002.

Besides being a major supplier to the United States, Venezuela also provides significant quantities of oil to its neighbors in the Caribbean Sea. Under the auspices of the San Jose Accord, Venezuela and Mexico provide eleven Central American and Caribbean nations with a total of 160,000 bbl/d of crude oil and products under preferential terms. The San Jose Accord was originally implemented in 1980 and is renewed annually. In addition, Venezuela supplies Cuba with 53,000 bbl/d of oil with favorable financing under an agreement signed between President Hugo Chavez and Cuban President Fidel Castro in 2000. Trade with Cuba has at times been contentious, and oil shipments to Cuba were temporarily halted after the attempted coup in April 2002 that briefly ousted President Chavez. Shipments to Cuba resumed in September 2002.

Venezuela also supplies major Caribbean refineries with significant quantities of crude oil, the two largest being the 495,000-bbl/d Hovensa refinery on St.

Croix, and the 320,000-bbl/d Isla Refinery on Curacao. Some of the Venezuelan crude processed at these refineries is then marketed for export, with an estimated 200,000-300,000 bbl/d coming to the United States.

Over the past few years under President Chavez, cuts in State Oil Company PdVSA's budget (down 28% in 2002), combined with a lack of adequate foreign investment and a policy of strict adherence to OPEC quotas, has crimped the company's ambitious long-term expansion plans. According to a five-year plan released in late February 2001, PdVSA aimed to raise the country's crude oil production capacity to 5.5 million bbl/d by 2006 (Chavez had previously planned to reach capacity of 5.5 million bbl/d by 2008). This now appears unrealistic. EIA estimates current capacity at about 3.1 million bbl/d.

PdVSA

Venezuela nationalized its oil industry in 1975-1976, creating Petroleos de Venezuela S.A. (PdVSA), the country's state-run oil and gas concern. PdVSA is one of the world's largest oil companies and is by far Venezuela's largest business and employer. The company controls Venezuela's oil and gas sectors as well as the country's coal industry through its subsidiary Carbozulia. PdVSA works with foreign investors in Venezuela under the country's hydrocarbons law of November 2001, which stipulates that PdVSA hold a 51% stake in any new exploration and production agreement. The privatization of PdVSA is banned under Venezuela's 1999 constitution.

PdVSA also plays an important role in Venezuelan politics. Besides being Venezuela's largest employer and responsible for approximately one third of the country's GDP, PdVSA is also run by presidential appointees and has seen five different directors during President Chavez's tenure. In February 2002, the appointment of Gaston Parra to the company's presidency along with the appointment of five new board members incited unrest amongst the company's workforce. On March 8, 2002, management and laborers at PdVSA organized a 4-hour strike, followed by a series of work stoppages to protest the political reshuffling of the company's management. The PdVSA

strike later turned into a general nationwide strike, which served as the catalyst for the brief overthrow of President Chavez. In April 2002, Ali Rodriguez was appointed president of PdVSA. Ali Rodriguez had previously served as the president of OPEC, and prior to that as Venezuela's minister of energy and mines.

As of mid-December 2002, the nationwide strike which began on December 2, has severely compromised PdVSA's operations, with many wells reportedly unmanned, refineries operating at partial capacity, and oil tankers waiting at sea to berth. On December 5, PdVSA was compelled to declare Force Majeure on the export of petroleum products and on December 9, the Venezuelan national guard took over gasoline distribution throughout the country. Also on December 9, seven of PdVSA's eight highest executives submitted their resignations to President Chavez (all except Ali Rodriguez).

Venezuela and OPEC

Venezuela, a founding member of the [Organization of Petroleum Exporting Countries \(OPEC\)](#), regularly exceeded its OPEC-agreed oil production targets prior to Chávez's December 1998 election. In a major policy reversal for Venezuela, the Chávez administration negotiated with Saudi Arabia and non-OPEC member Mexico to rein in production. These negotiations precipitated the 1998-1999 OPEC production cuts that saw oil prices rebound in 1999, after hitting historic lows.

Since his election, Chávez has maintained a policy of strict adherence to OPEC quotas. This requires PdVSA to shut in production, filling storage facilities, reducing production at existing fields, and reducing investment and total production capacity. OPEC-10's current output ceiling of 23 million bbl/d allows Venezuela 2.5 million bbl/d of production.

In the past, PdVSA has adjusted its own production to ensure that Venezuela as a whole meets its OPEC production targets. Thus, during periods of OPEC production cuts, private companies operating in joint ventures with PdVSA could maintain steady output. However, that policy has changed, as some

private producers have been asked to hold in production. U.S. refiner Lyondell is suing PdVSA, charging that PdVSA violated a crude oil supply agreement. Lyondell is seeking \$90 million for a 30-million-barrel deficit in PdVSA deliveries to the refinery between April 1998 and September 2000. PdVSA enacted the cut to aid in OPEC compliance

Exploration and Production

Venezuela has four major sedimentary basins: Maracaibo, Falcon, Apure and Oriental. These fields contain reserves of 77.7 billion barrels of conventional oil, most of which has an API gravity of less than 20 degrees, making Venezuela's conventional crude oil heavy by international standards. Due to the maturity of many of these basins and their declining productivity, PdVSA plans to spend \$45 billion to increase production at the country's existing oil wells, as well as to develop new non-conventional extra heavy crude oil and natural gas resources.

Extra Heavy Crude Oil

Venezuela contains billions of barrels in extra-heavy crude oil and bitumen deposits, most of which are situated in the Orinoco Belt, located in Central Venezuela (estimates range from 100 billion to 270 billion barrels of recoverable reserves). There are four congressionally approved joint ventures between PdVSA and foreign partners to develop extra-heavy crude oil. All four projects aim to convert the extra heavy crude from approximately 9° API crude to lighter, sweeter synthetic crude, known as syncrude. These projects normally produce about 450,000 bbl/d of synthetic crude oil (this is expected to increase to 700,000 bbl/d by 2005), much of which is destined for the U.S. Gulf Coast. Syncrude is considered by the International Energy Agency (IEA) to be "non-conventional crude oil."

Venezuela's four congressionally approved extra-heavy crude oil joint ventures are currently at different stages in their development. The first project, Conoco's Petrozuata, produces extra-heavy crude oil from the Zuata region of the Orinoco Belt for transport to the port of Jose on Venezuela's northern coast. Conoco owns and operates two parallel 130-mile pipelines

with capacities of 200,000 bbl/d to transport production from its wells and others in the region. Heavy crude oil is blended with a lighter crude oil for pipeline transportation to an upgrading facility. The upgrading facility processes the heavy oil into a higher value synthetic crude oil (with an API range between 19° and 25°), and associated byproducts: LPG; sulfur; petroleum coke and heavy gas oil. As production increases, pipeline capacity could be expanded to 500,000 bbl/d. Since 1997, Petrozuata has drilled more than 320 wells in 55,000 acres of the Zuata region, and production is currently 120,000 bbl/d.

ExxonMobil and PdVSA's joint venture at the Cerro Negro extra-heavy oil field started production in 2001. Extra-heavy crude oil from Cerro Negro is diluted with naptha and routed northward via pipeline to an upgrader complex at the port of Jose. The project's upgrader at the Jose complex processes 120,000-bbl/d of extra heavy crude oil into approximately 108,000 bb/d of syncrude and byproducts (sulfur and coke). Some of the syncrude is then exported to the partners' 180,000-bbl/d Chalmette refinery, located in Louisiana, near New Orleans, where the oil is refined and sold in U.S. markets. Germany's Veba Oil and Gas was also a 16% partner in the upstream component of the project, but in January 2002, began the process of selling its international assets to Petro-Canada.

TotalFinaElf and Statoil are partners with PdVSA in the Sincor project, which began production in February 2002 and has been producing about 140,000-160,000 bbl/d of oil in recent months. Production is expected to plateau at 200,000 bbl/d, with about 35 years of operation. Sincor's extra-heavy crude is upgraded at a facility in the Jose complex, and then marketed for export, similar to the Petrozuata and Cerro Negro projects. Sincor's syncrude output comes in two grades, Zuata Sweet and Zuata Medium.

ConocoPhillip's and ChevronTexaco's joint venture with PdVSA, the Hamaca project, came onstream in November 2001 and is currently producing about 30,000 bbl/d of extra-heavy crude, most of which is diluted and shipped to refineries in the United States. Peak production of about 190,000 bbl/d is

expected after an upgrading facility at the Jose complex is completed in early 2004. The crude will be upgraded to about 26° API, and the field is expected to pump for about 34 years.

Orimulsion

Orimulsion is a branded product that is used as a boiler fuel, similar to #6 fuel oil. It is an emulsion of approximately 70% natural bitumen, 30% water, and less than 1% surfactants (emulsifiers). Bitumen is considered a non-oil hydrocarbon and is not counted towards Venezuela's OPEC crude oil production quota. Burning Orimulsion in conventional power plants produces emissions of carbon dioxide, sulfur dioxide, and nitrogen oxide roughly similar to emissions from fuel oil.

Bitor, a PdVSA subsidiary, manages the processing, shipping and marketing of Orimulsion. Bitor now operates one Orimulsion plant in Cerro Negro, with a capacity of 5.2 million metric tons per year, and hopes to produce 20 million metric tons per year by 2006. According to Bitor, more than 1.2 trillion barrels of bitumen exist in the Orinoco Belt. Economically recoverable reserves are now estimated at about 267 billion barrels. Canada, China, Denmark, Guatemala, Italy, Japan, and Lithuania either consume or are considering consuming Orimulsion.

Refining

PdVSA operates one of the Western Hemisphere's largest refining systems and is one of the world's largest oil refiners. Domestic refinery capacity stands at about 1.3 million bbl/d, with significant additional holdings in Curaçao, the United States (in Lake Charles, Lemont, Corpus Christi, Paulsboro, Savannah, and Lyondell), and Europe (in Germany, Sweden, Belgium, and the United Kingdom). About one-third of Venezuela's refined product exports are exported to the United States, where they are distributed mainly by Tulsa-based Citgo, PdVSA's U.S. refining and marketing subsidiary, and one of the largest U.S. gasoline retailers.

NATURAL GAS

Venezuela has proven natural gas reserves of about 147.6 trillion cubic feet (Tcf), the second largest in the Western Hemisphere (behind the United States) and the eighth the largest in the world. Current plans call for exploration to increase Venezuela's proven reserves. The country produced about 1 Tcf in 2000. Domestic demand is relatively low (about 1 Tcf was consumed in 2000), largely because Venezuela's highly developed hydropower industry thus far has precluded the use of natural gas for power generation. About 60% of the country's gas production is consumed by the oil industry, which either re-injects the gas into oil fields or flares it. About 10% of Venezuela's natural gas is used for power generation; 6% in petrochemical production; and the rest is used mainly by industrial or commercial customers in large cities. The Chavez administration has plans to increase both natural gas production and consumption.

Sector Organization: PdVSA and Private Companies

The natural gas unit of PdVSA traditionally has had a monopoly on Venezuelan natural gas production, allowing for only a few joint ventures. However, in August 1999, legislation opened up the country's natural gas sector to foreign investment in exploration and production, distribution, transmission, and gasification (although no company would be allowed to explore, produce, and transport in the same region). Venezuela held its first non-associated natural gas exploration licensing round in 2001, and licenses were awarded to TotalFina-Elf, Repsol-YPF, Inelectra, Otepi, Pluspetrol, and Perez Companc.

Exploration and Production

In February 2002, PdVSA launched the Deltana Platform project in an effort to tap Venezuela's unassociated offshore natural gas resources. The Deltana Platform, which is located off of Venezuela's Atlantic coast near Trinidad, could contain up to 40 Tcf of natural gas. PdVSA's \$4 billion project aims to produce 1 billion cubic feet (Bcf) per day of natural gas both for domestic consumption and for export. The government has enlisted the help of foreign oil companies to develop the Deltana Platform in conjunction with PdVSA. In July 2002, the project's first test well began producing at a rate of 50 thousand

cubic feet per day (Mcf/d) and in August 2002, the government signed preliminary agreements with ChevronTexaco, British Gas, TotalFinaElf and Statoil allowing the companies to bid for involvement in each of the Deltana Platform's five blocks. Awards for the first four blocks were expected by the end of 2002. Given the political unrest in Venezuela in December 2002, an announcement concerning the licenses has not been forthcoming.

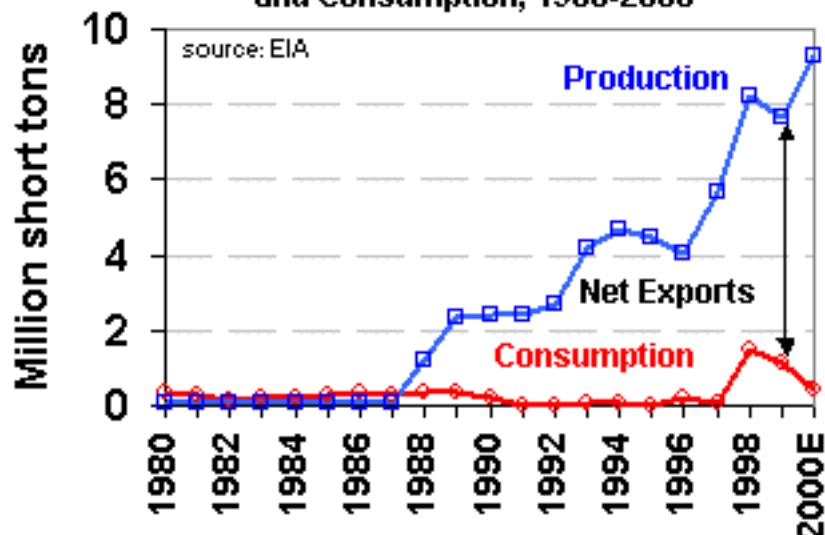
The Mariscal Sucre Liquefied Natural Gas (LNG) project, a re-vamped version of previous projects, is a joint venture of PdVSA, ExxonMobil, Royal Dutch/Shell, and Mitsubishi. The partners aim to construct a 4 million-ton-per-year LNG production train (more trains are expected to follow) that will be fed by as-of-yet untapped natural gas reserves off the Paria peninsula as well as the Deltana Platform. In January 2002, PdVSA unilaterally increased its share of Mariscal Sucre from 33% to 60%, and in February 2002, discussions began that could lead to Qatar's inclusion in the project. The partners hope to have the project onstream by 2007. Completion of the Mariscal Sucre LNG plant will mark Venezuela's entry into the global LNG export market.

Pipelines

Existing Venezuelan natural gas infrastructure consists of 3,000 miles of domestic pipeline. The country has no natural gas export pipelines.

In July 2002, PdVSA, and the Colombian state oil company Ecopetrol completed a joint feasibility study on the construction a \$150 million natural gas pipeline that would carry between 150,000 and 200,000 Mcf/d from Colombia's Guajira fields, to western Venezuela beginning in 2005. PdVSA has suggested that in the future the direction of the pipeline flow might be reversed in order to allow it to serve as the first tranche in a pipeline system to export Venezuelan gas to other countries in Central and South America.

Venezuelan Coal Production and Consumption, 1980-2000



COAL

Venezuela has recoverable coal reserves of approximately 528 million short tons (Mmst), most of which is bituminous. Venezuela is the second largest producer of coal in Latin America, after Colombia. Production in 2000 amounted to 9.3 Mmst, almost all of which was exported to other

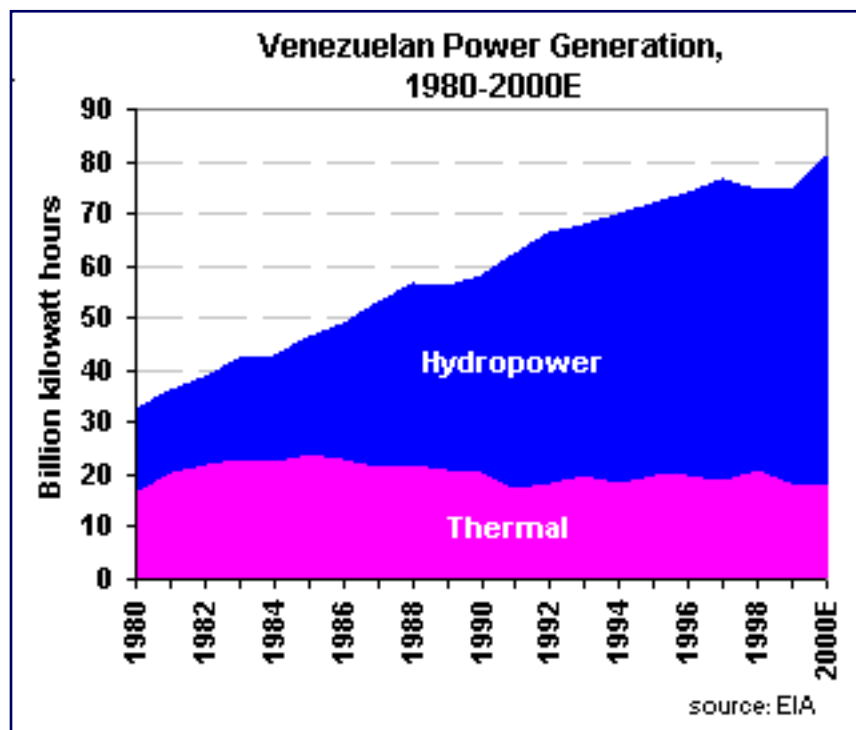
countries in the region, the eastern United States, and Europe. Domestic consumption in 2000 was only about 450,000 short tons.

The Guasaré Basin, near the Colombian border, is the major coal producing region in Venezuela. Coal production has been limited during the last several years by infrastructure and transportation constraints. The government announced in April 1999 intentions to increase production of high-quality coal to 21 million tons per year by 2008. Venezuela's coal sector is dominated by Carbozulia, which is owned by PdVSA.

ELECTRICITY

Venezuela has about 21 gigawatts (GW) of electric generating capacity. Venezuela has one of the highest electrification rates in Latin America at over 90%, and Venezuelans are the highest per capita users of electricity in Latin America. Venezuela generated 80.8 billion kilowatthours of electricity generation in 2000, 77% of which was hydropower, while the remainder was oil- and to a smaller extent natural gas-fired. Increased demand in coming years will be met with a combination of natural gas and oil as well as hydropower. The proportions of hydropower to thermal power are expected to remain constant. Venezuela is home to the world's second largest operational hydroelectric dam (after Itaipu in Paraguay/Brazil), the 10,000-megawatt (MW) Raul Leoni dam on the Caroní River. Venezuela typically generates

excess power. Venezuela's grid is joined with Colombia, allowing trade between the two countries. In August 2001, an electricity interconnection between Venezuela and Brazil was inaugurated at Santa Elena de Uairen, Venezuela. The transmission line links Santa Elena de Uairen to Boa Vista in Brazil. The power is generated by the 12,500-megawatt Guri hydroelectric plant in Venezuela.



Sector Organization

The Venezuelan electricity sector is a mixture of state-owned utilities, comprising the majority of the sector, and some private companies. State-owned utilities include: Electrificación de Caroni (EDELCA); Cadafe, which includes Cadela, Elecentro, Eleoriente, Eleoccidente, Desurca, and Senda; Enelven/Enelco, and Enelbar.

Private companies include: Electricidad de Caracas (EDC), with subsidiaries C.A. Luz Eléctrica de Venezuela (CALEV), C.A. Luz Eléctrica de Yaracuy (CALEY), and C.A. Electricidad de Guarenas y Guatire (ELEGGUA); Electricidad de Valencia (ELEVAL); Electricidad de Ciudad Bolívar (ELEBOL); Luz y Fuerza Eléctrica de Puerto Cabello (CALIFE); and Empresa Eléctrica de Nueva Esparta (SENECA), on Margarita Island.

EDELCA is the largest generation company in Venezuela, generating over 70% of the country's electricity. It operates the Guri plant on the Caroni river with an installed capacity of 10,000 MW, the world's second largest operational hydroelectric plant, and the 3,080-MW Macagua plant. EDELCA is also developing two new facilities on the Caroni River, Caruachi and Tocoma. The Caruachi hydroelectric dam project, which entails a 2,160-MW power plant located between Guri and Macagua is scheduled to begin

operation in 2003 and will increase Venezuela's electricity generating capacity by about 11%. The 2,160-MW Tocoma hydroelectric dam will be EDELCA's fourth dam on the Caroni River and is scheduled for completion by 2010. Venezuela's second largest state generating company is Cadafe. The country's largest private sector generating company is ELECAR.

Electric sector privatization was underway when the current administration came into power, but has since been delayed. As a final preparatory step before sales commence, the government had planned to "unbundle" electricity companies by September 2001, separating firms into generation, transportation, distribution, and marketing units. This unbundling now has been delayed indefinitely.

Generation

After a decade of under-investment in Venezuela's electricity sector, the country now is facing a potential electricity crisis. Analysts have predicted a shortfall of about 8 billion kilowatthours in 2002. In February 2002, the Venezuelan national electricity system began operating with reduced frequency and tension to conserve energy.

The immediate reasons for the power shortfall include reduced hydropower capacity and electricity theft. Low rainfall levels have decreased hydropower capacity (as in neighboring Brazil), with diminished levels in reservoirs. Fossil fuel-fired generation is not expected to be able to make up the difference. Rampant electricity theft also is straining the infrastructure, with illegal hookups accounting for an estimated quarter of Venezuela's total consumption. The government reportedly has been pressuring private electricity companies to continue serving non-paying customers.

ENVIRONMENT

Venezuela's environmental problems include pollution and deforestation. Pollution from energy production and consumption is high relative to Venezuela's neighbors, as production is the mainstay of its economy and consumption is heavily subsidized. Therefore, it emits more carbon than

many of its neighbors. Its use of non-hydro renewable energy sources is low. Addressing the high levels of energy intensity and pollution will present major environmental challenges for Venezuela.

COUNTRY OVERVIEW

President: Hugo Chavez Frías (since December 1998)

Independence: July 5, 1811 (from Spain)

Population (7/02E): 24.3 million

Location/Size: Northern South America/352,144 square miles, slightly more than twice the size of California

Major Cities: Caracas (capital), Maracaibo, Valencia, Maracay, Barquisimeto

Languages: Spanish (official), Indian dialects in the interior

Ethnic Groups: Spanish, Italian, Portuguese, Arab, German, African, indigenous people

Religions: Roman Catholic (96%), Protestant (2%)

Defense (8/98): Army (34,000), Navy (15,000, including 5,000 Marines), Air Force (7,000), National Guard (23,000)

ECONOMIC OVERVIEW

Currency: Bolívar

Official Exchange Rate (4/01/02): US\$1 = 1,291 Bolívars

Gross Domestic Product (2002E): \$96 billion

Real GDP Growth Rate (2002E): -6.7% **(2003F):** 2.6%

Inflation Rate, % change in consumer prices (2002E): 22.6% **(2003F):** 33.2%

Unemployment Rate (2002E): 13.7%

Major Trading Partners: United States, Colombia, Germany, Japan, Canada, and Italy

Major Export Products: Petroleum and derivatives (80%), aluminum (4%)

Major Import Products: Capital goods (20%), consumer goods (20%), and raw materials (60%)

Foreign Debt (2001E): \$33 billion

ENERGY OVERVIEW

Minister of Energy and Mines: Alvaro Silva Calderon

Head of PdVSA: Ali Rodriguez

Proven Oil Reserves (1/1/02E): 77.7 billion barrels (not including extra-heavy oil and bitumen)

Oil Production (January-September 2002E): 2.9 million barrels per day (bbl/d), of which 2.65 million bbl/d was crude

OPEC Crude Oil Production Quota (effective 1/1/03): 2.497 million bbl/d (up 150,000 bbl/d from January 1, 2002)

Oil Consumption (2002E): 466,000 bbl/d

Net Oil Exports (January-September 2002E): 2.4 million bbl/d

Crude Oil Refining Capacity (1/1/02): 1.28 million bbl/d in Venezuela, with almost 2 million bbl/d of capacity in the Caribbean, the United States and Europe

Major Crude Oil Customers: United States, Canada, Germany, Spain

Oil Exports to the United States (January-September 2002E): 1.4 million bbl/d (not counting around 200,000-300,000 bbl/d of Venezuelan crude refined in the Caribbean and then sent to the United States)

Natural Gas Reserves (1/1/02E): 147.6 trillion cubic feet (Tcf)

Natural Gas Production/Consumption (2000E): 1.0 Tcf

Coal Reserves (2000E): 528 million short tons (Mmst)

Coal Production (2000E): 9.3 Mmst

Coal Consumption (2000E): 0.5 Mmst

Electric Generation Capacity (2000E): 21 gigawatts

Electricity Production (2000E): 80.8 billion kilowatthours (77% hydroelectric)

ENVIRONMENTAL OVERVIEW

Minister of Environment and Natural Renewable Resources: Ana Elisa Osario

Total Energy Consumption (2000E): 2.7 quadrillion Btu* (0.7% of world total energy consumption)

Energy-Related Carbon Emissions (2000E): 35.4 million metric tons of

carbon (0.6% of world total carbon emissions)

Per Capita Energy Consumption (2000E): 112.3 million Btu (vs U.S. value of 351.0 million Btu)

Per Capita Carbon Emissions (2000E): 1.5 metric tons of carbon (vs U.S. value of 5.6 metric tons of carbon)

Energy Intensity (2000E): 34,113 Btu/\$1995 (vs U.S. value of 10,918 Btu/\$1995)**

Carbon Intensity (2000E): 0.44 metric tons of carbon/thousand \$1995 (vs U.S. value of 0.17 metric tons/thousand \$1995)**

Sectoral Share of Energy Consumption (1998E): Industrial (64.4%), Transportation (17.1%), Commercial (9.2%), Residential (9.3%)

Sectoral Share of Carbon Emissions (1998E): Industrial (64.6%), Transportation (25.4%), Commercial (4.4%), Residential (5.6%)

Fuel Share of Energy Consumption (2000E): Natural Gas (42.04%), Oil (33.7%), Coal (0.5%)

Fuel Share of Carbon Emissions (2000E): Natural Gas (55.6%), Oil (45.5%), Coal (0.9%)

Renewable Energy Consumption (1998E): 621 trillion Btu* (2% increase from 1997)

Number of People per Motor Vehicle (1998): 11.4 (vs U.S. value of 1.3)

Status in Climate Change Negotiations: Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified December 28th, 1994). Not a signatory to the Kyoto Protocol.

Major Environmental Issues: sewage pollution of Lago de Valencia; oil and urban pollution of Lago de Maracaíbo; deforestation; soil degradation; urban and industrial pollution, especially along the Caribbean coast.

Major International Environmental Agreements: A party to Conventions on Biodiversity, Climate Change, Desertification, Endangered Species, Hazardous Wastes, Marine Life Conservation, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Tropical Timber 83, Tropical Timber 94, Wetlands and Whaling. Has signed, but not ratified, Marine Dumping.

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric

power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.

****GDP based on EIA International Energy Annual 2000**

OIL AND GAS INDUSTRIES

Organization, Oil and Natural Gas: Petroleos de Venezuela, S.A. (PdVSA, state-held), with some foreign companies involved in joint ventures; *Coal:* Carbozulia, owned by PdVSA, with some foreign companies involved in joint ventures; *Electricity:* Several state-held and private utilities

Major Foreign Oil Company Involvement: BP, Chevron, CNPC (China), Conoco, ExxonMobil, Pennzoil, Phillips, Repsol-YPF, Shell, Statoil, Texaco, TotalFina, Union Texas, and Veba Oel

Major Domestic Refineries (crude capacity-bbl/d) (1/1/02), PdVSA: El Palito, Puerto Cabello (126,900), Puerto de la Cruz (195,000), San Roque, Anzoategui (5,200); **Paraguana Refining Center:** Cardon/Judibana, Falcon (940,000), Maracaibo, Zulia (15,000)

Sources for this report include: Argus LatAm Energy; BBC Worldwide Monitoring; Cambridge Energy Research Associates; CIA World Factbook; Economist Intelligence Unit ViewsWire; Energy Day; Electric Utility Week; Financial Times; Gas-to-Liquids News; Global Insight; Global Power Report; Journal of Commerce; Lloyd's List; Latin America Monitor; Latin America Economic Outlook; Latin Finance; New York Times; Oil and Gas Journal; Oil Daily; Petroleum Economist; Petroleum Finance Week; Petroleum Intelligence Weekly; Platt's Oilgram News; Power Engineering International; U.S. Energy Information Administration; World Gas Intelligence; World Markets Analysis; World Oil.

LINKS

For more information on Venezuela, see these other sources on the EIA web site:

[International Petroleum Monthly](#) - EIA's latest monthly international petroleum data

[EIA - Country Information on Venezuela](#)

[EIA OPEC Fact Sheet](#)

Links to other U.S. government sites:

[U.S. Embassy in Caracas, Venezuela](#)

[CIA World Factbook - Venezuela](#)

[U.S. Department of Energy's Office of Fossil Energy's International section - Venezuela](#)

[U.S. State Department's Consular Information Sheet - Venezuela](#)

[U.S. State Department Background Notes - Venezuela](#)

[Information from the U.S. International Trade Administration](#)

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